

APPENDIX III.

RECOMMENDED CONSERVATION SITES

CONSERVATION SITE SUMMARY

Site Name: Natural Fort
 State/County: CO/Weld
 USGS Quad: Carr West Quadrangle
 Acres: ca. 115
 Location: T11N R67W, parts of S05 and S06
 Directions to Site: The site begins 3.1 miles south of the Wyoming border and continues, east of Interstate Highway I-25, 0.6 miles along Lone Tree Creek.

Site Description: The site consists of the stream course, floodplain, and closely adjacent portions of gently sloping upland along Lone Tree Creek from the Natural Fort Rest Area to the point where the stream intersects I-25. The elevation is between 5880 and 5910 feet. The substrate is sandy alluvium underlain by the White River (lower Oligocene) and Laramie (upper Cretaceous) formations.

Element Summary Table:

Element Name	Common Name	Element Occ. No.
<u>Gaura neomexicana</u> <u>ssp. coloradensis</u>	Colorado Butterfly Plant	21

Summary of Ecological Significance: The site contains one of the two known Colorado occurrences of Colorado Butterfly Plant. The occurrence is located in a riparian habitat, where the effects of domestic livestock have not been as extensive as in the surrounding region.

Other Values and Significance: The site includes a 0.6 mile reach of an unprotected perennial stream system. Few perennial streams persist in the plains region of northeastern Colorado.

Boundaries: It would be very difficult to secure watershed protection for this reach of Lone Tree Creek. Immediate threats to this occurrence can be removed by means of a grazing enclosure. The proposed boundary encloses the minimum area needed to conserve this occurrence and its habitat, along with a reasonable buffer.

Tract Summary: Ownership presently unknown.

Stewardship:

- a. Ecological Management Needs: The immediate threat to the continued existence of this occurrence is domestic livestock grazing. Present grazing is principally by cattle and horses. All of the adjacent potential habitat has been severely altered, and individual plants of Colorado Butterfly Plant show signs of being grazed. Weedy species, such as Cirsium arvense, have invaded the area with degradation of the natural vegetation by over-grazing. The more impacted areas along Lone Tree Creek are heavily infested with exotic plants.

A less immediate problem, but equally important, is the maintenance of streamflow in Lone Tree Creek. The few known occurrences of the Colorado butterfly plant grow in mesic, non-saline meadows at the margins of stream-courses or where freshwater seeps or springs irrigate the soil.

- b. Special Management Considerations: If monitoring reveals a continuing decrease in the trend of the natural vegetation (continued invasion of weedy species), it may be necessary to remove some of the weeds to allow re-establishment of the native community.

Evidence of Disturbance to the Site: During 1984 observations, all flowering individuals showed evidence of grazing. Characteristically, the principal axis of the inflorescence had been cropped, with only secondary branches remaining, or frequently the total inflorescence had been removed. Because of this, a major portion of the year's reproductive potential is lost. Basal rosettes of this biennial species were observed to be relatively plentiful near the bases of the flowering individuals. During the field observations, livestock had moved through the area and trampled many of these rosettes.

Surrounding Land Use: The surrounding land is used primarily for domestic livestock grazing.

CONSERVATION SITE SUMMARY

Site Name: Noname Fork Bear Creek
 State/County: WY/Laramie
 USGS Quad: Hirsig Ranch Quadrangle
 Acres: ca. 30 ? (ca. 1.5 miles of drainage bottom)
 Location: T18N R68W S08, S09 NWNW

Directions to Site: Take the Nimmo Ranch exit off Interstate 25 (roughly 25 miles north of Cheyenne). Follow the frontage road east of the highway north for about a mile and a quarter and turn west, crossing the freeway on what becomes the Bristol Ridge Road. Follow this road west to a ranch site near the South Fork Bear Creek (about 5.5 miles). The road turns north and then winds north and west towards the old Hirsig Ranch, crossing the South Fork, the North Fork of the South Fork and then an unnamed fork where this site is located. It starts on the east side of a fence just east of the road.

Site Description: The site is a broad creek bottom along an intermittant stream, and is surrounded by mixed grass prairie. It is on alluvium derived largely from the Oglalla Formation. The occurrence is known to extend downstream for at least 1.5 miles; it may go further. The elevation ranges from 6250 to 6360 feet.

Element Summary Table:

Element Name	Common Name	Element Occ. No.
<u>Gaura neomexicana</u> ssp. <u>coloradensis</u>	Colorado Butterfly Plant	02

Summary of Ecological Significance: The site contains a large population of Gaura neomexicana ssp. coloradensis (almost 1500 flowering second-year plants were counted during the 1986 survey). No noxious weeds were observed, and although the area has been grazed, it does not appear heavily-impacted. This occurrence is near the northwestern limit of the taxon's known range.

Other Values and Significance: The area is relatively undeveloped at this time and is fairly remote. It is watered by an intermittant stream that repeatedly sinks and resurfaces, and that has fairly large pools (with fish).

Boundaries: The site is bounded on the west by a fence, beyond which the vegetation changes abruptly to weedy meadow (Trifolium repens and Hordeum jubatum), probably due to differences in grazing history. Downstream, the exact boundary is not known;

the occurrence extends for at least 1.5 miles.

Tract Summary: The site is owned by True Ranches, Inc. of Casper Wyoming.

Stewardship:

- a. **Ecological Management Needs:** The only possible threat to the continued existence of this occurrence known at this time is livestock grazing. Grazing can impact Colorado Butterfly Plant populations, but little is known concerning proper stocking levels.

Gaura neomexicana ssp. coloradensis appears to require relatively open habitat (patches of bare soil); periodic flooding is probably important for habitat maintenance. Water development (construction of stockponds or reservoirs) could threaten this occurrence, either by flooding the site, or by disrupting natural streamflow.

There were no noxious weed infestations observed during the 1986 survey.

- b. **Special Management Considerations:** None known at this time.

Evidence of Disturbance to the Site: Evidence of grazing was observed during the 1986 survey.

Surrounding Land Use: The surrounding land is used for grazing and haying.

CONSERVATION SITE SUMMARY

Site Name: Burns
State/County: WY/Laramie
USGS Quad: Burns Quadrangle
Acres: ca. 20
Location: T15N R62W S 31 NE1/4, S 32 W1/2

Directions to Site: From Burns, go north across tracks, then east about 0.4 mile to where the road swings north; continue about 1.9 miles to Lodgepole Creek; walk northwest and southeast along drainage (both sides of road).

Site Description: The site is a hayfield along Lodgepole Creek. It is on alluvium with the Arikaree Formation on the immediate uplands and the Ogallala Formation above and beyond the Arikaree. The elevation is 5410 to 5430 feet.

Element Summary Table:

Element Name	Common Name	Element Occ. No.
<u>Gaura neomexicana</u> ssp. <u>coloradensis</u>	Colorado Butterfly Plant	10 (in part)

Summary of Ecological Significance: The site is part of the largest known occurrence of Colorado Butterfly Plant outside of WAFB. The site itself contained just under 3000 flowering second-year plants when surveyed in 1985. The occurrence is located near the eastern boundary of the taxon's known range.

Boundaries: The site is in prime hayland on the property of two different owners. Although the area is small, it is in high demand for hay and winter grazing because of its productivity due to subirrigation.

Tract Summary: The site is owned by Albert O. Paulus (31 NE1/4) and Robert W. Steege (32 W1/2) who farm north of Burns.

Stewardship:

- a. Ecological Management Needs: The immediate threat to the continued existence of this occurrence is the effect of spraying. Haying and grazing have some additional impact. Selective spraying, winter grazing and haying in early to mid August would help preserve the plants.

- b. Special Management Considerations: Intensive summer grazing tends to eliminate the plants. Winter grazing is not so detrimental. Haying is harmful when done twice in a summer (early July and August), for the plants are not able to set seed.

Evidence of Disturbance to the Site: The area is used for haying and grazing. Part of it is heavily grazed and does not contain as many plants. The winter grazed areas are in better condition. A reservoir is in the creek bottom a short distance below the site.

Surrounding Land Use: haying, grazing and dryland grain farming.